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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,428	03/09/2005	Yoshinori Suzuki	500.44249X00	1237

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EXAMINER

ROBERTS, JESSICA M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/506,428

Applicant(s)

SUZUKI, YOSHINORI

Examiner

JESSICA ROBERTS

Art Unit

2621

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/06/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/309)
Paper No(s)/Mail Date 01/22/2010
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/24/2009 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 23-26 have been considered but are moot in view of the new ground(s) of rejection.

As to Applicant's argument regarding that paragraph [0010] says nothing about any "... moving picture decoding method having a prediction mode in which prediction mode motion vector information of a current block in a current frame is not transmitted from an encoding side" as explicitly claimed within Applicant's claims.

The Examiner respectfully disagrees. In response to applicant's arguments, the recitation "moving picture decoding method having a prediction mode in which prediction mode motion vector information of a current block in a current frame is not transmitted from an encoding side" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a

structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

As to Applicants argument that Rodriguez teaches neither any method without transmission of the motion vector, nor any determination standard of whether adjacent blocks have a motion vector.

The Examiner respectfully disagrees. In response to applicant's arguments, the recitation "without transmission" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Rodriguez discloses in Fig. 3, northwest adjacent block 301 can be used in Phase 1 to locate a candidate block 225 in the fashion as the other proximate blocks 202. Block 301 can be used either to locate a sixth candidate block or in place of one of proximate blocks 205, 207, or 209. In the latter case, the encoder engine keeps a record of which adjacent block provide the motion vector for the predictor for each block in current picture 201 whose motion vector has been determined which three of the four adjacent blocks (northwest, north,

northeast, west) should be used to contribute their motion vectors as predictors for the current block. The northwest block also serves as a replacement when one of the other blocks 205, 207, or 209 does not exist in the picture (that is, towards the right-most part of the picture) or when a motion vector does not exist for one (or more) of the other three adjacent blocks because of unsatisfactory motion estimation performance (i.e., the best matching error found was not acceptable). Further, fig. 3 clearly displays a current block (203), and a plurality of adjacent blocks (205, 207, 209, and 301). Since Rodriguez discloses where the northwest block also serves as a replacement when one of the other blocks 205, 207, or 209 does not exist in the picture (that is, towards the right-most part of the picture) or when a motion vector does not exist for one (or more) of the other three adjacent blocks because of unsatisfactory motion estimation performance (i.e., the best matching error found was not acceptable) and fig. 3 clearly discloses a current block and plurality of surrounding adjacent blocks, it is clear to the Examiner that Rodriguez discloses the case where the motion vector for an adjacent block does not exist to replace the missing motion vector with that of the northwest adjacent block, which reads upon the claimed limitation. Further, since Rodriguez uses the information from the northwest adjacent block as a replacement when the motion vector for an adjacent block does not exist, in order to replace the motion vector, clearly there is a step of determining if the motion vector is present or not.

As to Applicants argument regarding Fukuhara et al., does nothing to cure the major deficiencies mention above with respect to the AAPA and Rodriguez et al. art.

The Examiner respectfully disagrees. Fukuhara teaches applicants claimed limitation of "performing moving picture decoding by generating said predicted image using the reference frame(s) on said selected frame(s) and the motion vector information in said prediction mode (see fig. 18).

As to Applicants argument regarding to request that the Examiner cite a valid reference supporting the "Official Notice", as required by MPEP 2144.03, or alternative, the Examiner should withdraw the unsupported "Official Notice".

The Examiner respectfully disagrees. With respect to claims 23 and 25, the Applicant did not traverse the Examiners assertion of Official Notice or Applicants traverse is not adequate; the Examiner must clearly indicate in the next office action that common knowledge or well-known in the art statement is taken to be admitted prior art. In this instance, the Applicant did not adequately traverse the Examiner's assertion of official. Because the Applicant did not specifically point out the supposed errors in the Examiner's action, which would include stating "why" the noticed fact is not considered to be common knowledge or well-known in the art [See 37 CFR 1.111b(b). See also Chevenard, 139 F.2d at 713, 60 USPQ at 241].

Finally, since the Applicant's reference to the Examiners assertion was inadequate for the reasoning underlined above, the Examiner's common knowledge or well-known in the art statement are taken to be admitted prior art because Applicant either failed to traverse the Examiner's assertion of official notice or that the traverse was inadequate (MPEP 2144.03).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicants Admitted Prior Art) in view of Rodriguez, et al., US-6,195,389 in view of Fukuhara et al., US-5,926,225 and further in view of Well Known Prior Art (Official Notice).
 4. Regarding **claim 23**, AAPA teaches A moving picture decoding method, carried out by a computing system, which generates a predicted image using motion vector information and reference frame(s) information, the moving picture decoding method having a prediction mode, in which prediction mode motion vector information of a current block in a current frame is not transmitted from an encoding side, comprising: in said prediction mode : selecting, from among multiple candidate reference frame(s) to be referenced to in the prediction mode (AAPA teaches the above describes that one

reference frame is used for motion compensation for a P-picture, and two reference frames, that is a past frame (forward reference frame) and a future reference frame (backward reference frame) are used for motion compensation for a B-picture. There is also a such a method to prepare multiple past frames so that a different reference frame can be selected on a macroblock basis or for each of smaller blocks in to which each macroblock is divided,[0010]); and determining motion vector information to be used for the current block in the prediction mode, based on whether predetermined adjacent blocks adjacent to the current, have a motion vector, wherein all of the predetermined the adjacent blocks and the current block belong to the current frame and the predetermined adjacent blocks are decoded earlier than the current block; and performing moving picture decoding by generating said predicted image using the reference frame(s) information on said selected reference frames(s) and the motion vector information in said prediction mode.

5. Although, Rodriguez teaches determining motion vector information to be used for the current block in the prediction mode, based on whether predetermined adjacent blocks adjacent to the current, have a motion vector (Rodriguez teaches where the encoder engine keeps a record of which adjacent block provided the motion vector for the predictor for each block in current picture 201 whose motion vector has been determined and uses this information to determine which three of the four adjacent blocks (northwest, north, northeast, west) should be used to contribute their motion vectors as predictor for the current block. The northwest block also serves as a replacement when one of the other blocks 205, 207, or 209 does not exist, in the picture

(that is towards the right-most part of the picture) or when a motion vector does not exist for one (or more) of the other three adjacent blocks because of unsatisfactory motion estimation performance (i.e., the best matching error found was not acceptable), column 14 line 18-35 and fig. 3. The Examiner notes that the adjacent blocks located northwest adjacent block (NWAB), north adjacent block (NAB), northeast adjacent block (NEAB), west adjacent block (WAB) read upon applicants predetermined adjacent blocks), wherein all of the predetermined adjacent blocks (fig. 3 element 301, 207, 209, and 205) and the current block belong (fig. 3 element 203) to the current frame (fig. 3 element 201), it is noted that Rodriguez et al differs from the present invention in that it fails to particularly disclose a decoder as specified in claims 23-25. However, one of ordinary skill in the art would have had no difficulty in recognizing that the entire process of decompressing and decoding any compressed and coded is merely the reverse procedure of the encoding process, as clearly disclosed by Rodriguez et al. Furthermore, it should be self evident to one skilled in the art from the teaching of Rodriguez et al that the motion estimation on the encoder side is in an art recognized equivalent process to motion estimation on the decoder side and is designed to be used along with a similar but in reverse sequence decoder.

6. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the reference of Rodriguez et al before him/her, to flexibly apply the reverse processing steps of the motion estimation of Rodriguez et al in a similarly designed decoder in order to be able accurately decode any video signal that was compression encoded using the same motion estimation technique.

7. AAPA (modified by Rodriguez) is silent in regards to the adjacent blocks are decoded earlier than the current block; and performing moving picture decoding by generating said predicted image using the reference frame(s) on said selected reference frame(s) and the motion vector information in said prediction mode.
8. However, Fukuhara teaches performing moving picture decoding by generating said predicted image using the reference frame(s) on said selected reference frames(s) and the motion vector information in said prediction mode (fig. 18).
9. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Fukuhara with AAPA (modified by Rodriguez) for providing high quality decode images, column 2 line 49-51.
10. AAPA (modified by Rodriguez and Fukuhara) is silent in regards to the adjacent blocks are decoded earlier than the current block.
11. However, Official Notice is taken that both the advantage and concept of providing the limitations as claimed are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate with AAPA (modified by Rodriguez and Fukuhara) for providing improved image processing.
12. As to **claim 24**, which is substantially the same as claim 23, thus the rejection and analysis made in claim 23 also applies here.
13. As to **claim 25**, which is substantially the same as claim 23, in addition to decoding of the motion-vector-less block of the motion-vector-less prediction mode; predetermined adjacent blocks. However, as understood by the examiner, a motion-

vector-less prediction mode is a prediction mode without motion vector decoding.

Therefore, the rejection and analysis made in claim 23 applies here for common subject matter. AAPA is silent in regards wherein both the adjacent blocks and the motion-vector-less block belong to a same frame and the predetermined adjacent blocks are decoded earlier than the motion-vector-less block.

14. However, Official Notice is taken that both the concept and advantage for providing the limitations as claimed are notoriously well known and expected in the art, and would have been obvious to one of ordinary skill in the art to incorporate in AAPA (modified by Rodriguez and Fukuhara) for providing improved image processing.

15. As to **claim 26**, AAPA (modified by Rodriguez, Fukuhara and Well Known Prior Art (Official Notice)) as a whole teaches everything as claimed above, see claim 25. AAPA is silent in regards to a moving picture decoding method as claimed in claim 25, wherein the motion vector information is a motion vector selected from at least one motion vector of the predetermined adjacent blocks of the same frame.

16. However, Rodriguez teaches wherein the motion vector information is a motion vector derived from at least one motion vector of the predetermined adjacent blocks of the same frame (Rodriguez teaches where the encoder engine keeps a record of which adjacent block provided the motion vector for the predictor for each block in a current picture 201 whose motion vector has been determined and uses this information to determine which three of the four adjacent blocks (northwest, north, northeast, west) should be used to contribute their motion vectors as predictors for the current block, column 14 line 17-35 and fig. 3).

17. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Rodriguez (modified by Fukuhara and Well Known Prior Art) with AAPA for providing improved image quality.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. Lin et al., US-6,721,362 Constrained Discrete-Cosine-Transform Coefficients for Better Error Detection in a Corrupted MPEG-4 Bitstreams.

20. Morimatsu et al., US-6,917,648 Encoder and Decoder for Moving Pictures

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA ROBERTS whose telephone number is (571)270-1821. The examiner can normally be reached on 7:30-5:00 EST Monday-Friday, Alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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